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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,342	04/11/2006	Jean-Francois Stumbe	288261US0PCT	3536

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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DOLLINGER, MICHAEL M

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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05/10/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/575,342	<b>Applicant(s)</b> STUMBE ET AL.	
	<b>Examiner</b> MIKE DOLLINGER	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:  
The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-13, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Saitoh et al (US 5,566,027).
3. Saitoh discloses a photocurable resin composition comprising (A) a polyfunctional urethane modified polyester (meth) acrylate comprising a polyester oligomer and a plurality of (meth)acryloyl groups bonded to the polyester oligomer [column 2 lines 23 -28]. One example of (A) is the reaction product of trimellitic anhydride and propylene glycol subsequently reacted with isophorone diisocyanate and 2-hydroxyethyl acrylate [column 7 lines 19-23]. Polyethylene glycol mono (meth) acrylate or polypropylene glycol mono (meth) acrylate are disclosed as substitutes for 2-

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hydroxyethyl acrylate [column 3 lines 23-28]. Other preferred polybasic acids include phthalic anhydride, isophthalic acid, terephthalic acid, succinic acid and anhydride thereof, adipic acid [col 3 lines 1-6] and trimellitic acid (which reads on 1,2,4-benzenetricarboxylic acid) [col 2 lines 61-62]. Exemplified acids include The composition is photocurable and useful as surface resin layer of an optical lens [column 1 lines 46-50] which reads on a binder. The equivalent ratio of polybasic acid to the polyhydric alcohol is preferably 100:105 [col 3 line 66 through col 4 line 6].

4. Claims 1, 2, 5, 7-13 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Meixner et al (US 4,983,712).
5. Meixner discloses polyesters which contain one or more acryloyl groups and are based on the esterification product of (a) several dicarboxylic acids and at least one trihydric saturated alcohol and (c) acrylic acid [abstract]. The inventive examples include terephthalic acid and adipic acid with a total of 2 moles of carboxylic acid functions and ethoxylated trimethylolpropane with a total of 1.5 moles of alcohol functions [col 4 Table 1] which corresponds to a ratio of OH to COOH of 1/1.33. The trihydric saturated alcohol is preferably the ethoxylation products of glycerol, trimethylol ethane or trimethylol propane wherein the degree of ethoxylation is 3 to 6 [col 2 line 68 to col 3 line 4] from which one having ordinary skill in the art would have immediately envisaged a degree of ethoxylation of 3, 4, 5 and 6. A trimethylolpropane with degree of ethoxylation of 5 anticipates the triol of claims 16 and 17 and a glycerol anticipates the triol of claim 15. Claims 12 and 13 are anticipated because there is nothing in the

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claims that requires that the hyperbranched polyester is a reaction product of a diol and an at least trifunctional polycarboxylic acid. Due to the high amount of branching that will occur due to the triol, the polyester reads on hyperbranched. The polyesters can be converted into crosslinked products by radiation [col 1 lines 8-11].

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Meixner et al (US 4,983,712).

7. While Meixner, discussed above, does not disclose the polyester prepared from the polyethylene glycol monoacrylate that is the elected species of claimed component (c), the disclosed polyester reads on all the claimed limitations of the hyperbranched polyester of the claims that is prepared from a polyethylene glycol monoacrylate.

Claims 3 and 4 are product-by-process claims, so any prior art that shows the claimed

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product formed by a different process will read on the claims. Since the triol of Meixner is ethoxylated, it contains polyethylene glycol units bonded between the polyester backbone and the acryloyl groups. With product-by-process claims, the methods the products are created by are not pertinent, unless applicant can show a different product is produced.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saitoh et al (US 5,566,027).

9. The process of instant claim 6, reacting a polyol and polyacid in the presence of (c) at least one compound having at least one ethylenically unsaturated double bond, is not explicitly disclosed in Saitoh. However, this process is obvious over the process disclosed in Saitoh, discussed above, that reads on the process in instant claim 5. The only difference between the process of claim 6 and the disclosed process/process of claim 5 is the order of adding ingredients, i.e. adding the ethylenically unsaturated compound (c) during condensation of the polyester as opposed to after condensation of the polyester. Case law holds that the selection of any order of mixing ingredients is *prima facie* obvious. *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930).

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meixner et al (US 4,983,712).

11. The process of instant claim 6, reacting a polyol and polyacid in the presence of (c) at least one compound having at least one ethylenically unsaturated double bond, is not explicitly disclosed in Meixner. However, this process is obvious over the process disclosed in Meixner, discussed above, that reads on the process in instant claim 5. The only difference between the process of claim 6 and the disclosed process/process of claim 5 is the order of adding ingredients, i.e. adding the ethylenically unsaturated compound (c) during condensation of the polyester as opposed to after condensation of the polyester. Case law holds that the selection of any order of mixing ingredients is *prima facie* obvious. *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930).

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saitoh et al (US 5,566,027) in view of Overbeek et al (WO 02/32982).

13. Saitoh does not disclose polydispersity of the disclosed polyester.

14. Overbeek discloses crosslinkable hyperbranched macromolecules [abstract]. Overbeek teaches the polydispersity index is preferably less than 20, more preferably less than 15 and especially less than 10 [page 11 lines 18-19]. Overbeek teaches that a lower PDI for a given Mw often results in lower viscosities [page 11 lines 16-17].

15. It would have been obvious to one having ordinary skill in the art the time the invention was made to have prepared a hyperbranched polyester with ethylenically

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unsaturated groups and a polydispersity of 1.05 to 50 because Saitoh teaches that it is within the skill of the art to prepare a hyperbranched polyester with ethylenically unsaturated groups and Overbeek teaches that it is within the skill of the art to prepare a hyperbranched macromolecule with a polydispersity of 20 or less. One would have been motivated to prepare the polyester of Saitoh with the polydispersity taught in Overbeek because Overbeek teaches that the lower the polydispersity the lower the viscosity for a given molecular weight. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using the polydispersity taught by Overbeek for the polyester taught by Saitoh.

16. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meixner et al (US 4,983,712) in view of Overbeek et al (WO 02/32982).

17. Meixner does not disclose polydispersity of the disclosed polyester.

18. Overbeek discloses crosslinkable hyperbranched macromolecules [abstract]. Overbeek teaches the polydispersity index is preferably less than 20, more preferably less than 15 and especially less than 10 [page 11 lines 18-19]. Overbeek teaches that a lower PDI for a given Mw often results in lower viscosities [page 11 lines 16-17].

19. It would have been obvious to one having ordinary skill in the art the time the invention was made to have prepared a hyperbranched polyester with ethylenically unsaturated groups and a polydispersity of 1.05 to 50 because Meixner teaches that it is within the skill of the art to prepare a hyperbranched polyester with ethylenically unsaturated groups and Overbeek teaches that it is within the skill of the art to prepare



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a hyperbranched macromolecule with a polydispersity of 20 or less. One would have been motivated to prepare the polyester of Meixner with the polydispersity taught in Overbeek because Overbeek teaches that the lower the polydispersity the lower the viscosity for a given molecular weight. Absent any evidence to the contrary, there would have been a reasonable expectation of success in using the polydispersity taught by Overbeek for the polyester taught by Meixner.

### ***Response to Arguments***

20. Applicant's arguments filed 02/19/2010 have been fully considered but they are not persuasive.

21. Applicants argue that Saitoh cannot anticipate the claimed invention because the only example of Saitoh that contains a carboxylic acid - alcohol combination according to the claims has a ratio of hydroxyl group to carboxyl groups of 4, which is outside the claimed range. This argument is not convincing. As discussed in the rejection above, Saitoh disclose the equivalent ratio of polybasic acid to the polyhydric alcohol is preferably 100:105 [col 3 line 66 through col 4 line 6] or a hydroxyl to carboxyl ratio of 1.05/1 according to the claims.

22. Applicant's arguments, see pages 10-11, filed 02/19/2010, with respect to Vrancken et al have been fully considered and are persuasive. The rejection of 10/21/2009 has been withdrawn.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MIKE DOLLINGER whose telephone number is (571)270-5464. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/mmd/

/RANDY GULAKOWSKI/  
Supervisory Patent Examiner, Art Unit 1796